

GRO-STOP® 100



MAPP 14182/PCS 03115

A hot fogging concentrate formulation containing 300g/litre chlorpropham, (23.4 % w/w) and dichloromethane, to prevent sprouting of dormant ware potatoes in store.

Batch No. and Manufacturing date: See container

Net Contents: [Insert](#)

THE (COSHH) CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH REGULATIONS MAY APPLY TO THE USE OF THIS PRODUCT AT WORK. – UK only

SAFETY PRECAUTIONS

Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling the concentrate or handling contaminated surfaces
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS, HOOD), GLOVES, RUBBER BOOTS, EYE PROTECTION (GOGGLES) AND SUITABLE RESPIRATORY PROTECTIVE EQUIPMENT when re-entering the store within 24 hours of treatment

*Full facemask to at least EN 136 with a combination filter to at least EN141 A2P3, or equivalent.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection – UK only

WASH CONCENTRATE from skin or eyes immediately.

WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.

WASH HANDS AND EXPOSED skin before eating, drinking or smoking and after work.

KEEP OUT OF STORE DURING TREATMENT.

DO NOT ENTER treated areas for at least 24 hours after treatment (unless appropriate personal protective equipment is worn – see above).

VENTILATE TREATED AREAS thoroughly when fog has cleared.

DO NOT BREATHE VAPOUR.

TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.

WEAR SUITABLE PROTECTIVE GLOVES when handling treated material

Environmental protection

Do not contaminate water with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from yards and roads.

The use of this product on ware potatoes is subject to discharges of chlorpropham into receiving waters from plant washing treated potatoes being within emission limits set by the UK monitoring authority. – UK only

Storage and disposal

DO NOT RE-USE CONTAINER for any purpose.

EMPTY CONTAINER COMPLETELY and dispose of safely.

PROTECT FROM FROST. Store in a dry and cool place.

This Product is approved under the Plant Protection Product Regulations

IMPORTANT INFORMATION

FOR USE ONLY AS A PLANT GROWTH REGULATOR IN FOOD STORAGE PRACTICE

Crops/situations: Potato (post harvest use, excluding seed)

Maximum individual dose: 40 ml (12 g chlorpropham)/tonne potatoes

Maximum total dose:

Fresh market potatoes 80 ml (24 g chlorpropham)/tonne potatoes

Potatoes for processing 120 ml (36 g chlorpropham)/tonne potatoes

Latest time of application: 14 days before marketing or processing

Other specific restriction

If stored potatoes have received a sprayed treatment of chlorpropham on entry into store, no further applications of chlorpropham are permitted by fogging.

Whilst this product must be used within the rates specified above, note that if the total dose of chlorpropham applied from any combination of products containing chlorpropham is greater than 24g chlorpropham per tonne potatoes then the treated potatoes must only be used for commercial processing.

In any case the total dose of chlorpropham applied from any combination of products containing chlorpropham must not be greater than 36g chlorpropham per tonne potatoes to any stored potato crop.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS

RISK AND SAFETY INFORMATION

GRO-STOP 100

Hot fogging concentrate formulation containing 300g/litre chlorpropham, (23.4% w/w) and dichloromethane.



WARNING

CAUSES SKIN IRRITATION.

CAUSES SERIOUS EYE IRRITATION. SUSPECTED OF CAUSING CANCER.

MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

Obtain special instructions before use.

Do not get in eyes, on skin, or on clothing.

**Wear protective gloves/protective clothing/eye protection/ face protection. IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty, clean containers which can be disposed of as non-hazardous waste.**

To avoid risks to human health and the environment, comply with the instructions for use.

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This label is compliant with the CPA Voluntary Initiative Guidance. – UK only

Marketed by:

CERTIS

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E-mail: certis@certiseurope.co.uk

For technical and non-emergency calls – phone 0044 (0)1223 894261

For advice on medical emergencies, fires, spillages or chemical hazards

ONLY – phone 0870 190 6777

Approval Holder

Certis Europe BV c/o Suite 5, 3 Riverside, Granta Park, Great Abington, Cambridgeshire, CB21 6AD

® Gro-Stop is a registered trademark of Certis Europe BV

CONDITIONS OF SUPPLY: The Seller warrants that the goods shall at the time of delivery to the Buyer conform to the Seller's standard specification but all other conditions and warranties, whether express or implied by statute or custom of the trade or otherwise and whether as to condition, quality, performance, merchantability, fitness for any purpose or otherwise, are expressly excluded and, subject as aforesaid, the Seller shall be under no liability whatsoever, in contract or in tort, for or in respect of any loss or damage whatsoever resulting from or arising out of the goods or supply or use thereof, whether caused by the negligence of the Seller or otherwise. The Seller shall be under no liability in respect of the warranty given above unless the Buyer allows the Seller reasonable opportunity of inspecting the goods where practicable. A consumers statutory rights are not affected.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

Restrictions/Warnings

Application of this product must be made in accordance with the industry best practice, i.e. the potato industry chlorpropham stewardship initiative, using positive ventilation or active recirculation according to ventilation management and air circulation methods appropriate for the store.

Efficacy of the new application regimes / reduced doses and air circulation methods has not been established. The product may not necessarily provide the expected duration of sprouting protection currently implied by this label.

Applications must be made at temperatures at or above 7°C.

For potatoes stored at 5°C or below, only one application of chlorpropham up to a maximum individual dose of 12g chlorpropham per tonne per season is allowed.

DO NOT use on seed potatoes.

DO NOT fog potatoes with a high level of skin spot.

It is important to treat the potatoes before the eyes open to obtain best results.

DO NOT use GRO-STOP 100 on potatoes stored in Graves, 'Dickie Pie' or modified 'Dickie Pie' type stores. When treating potatoes in bulk stores by this method, sprout control may be poor in the top 30 cm of the store.

Blockage of air spaces between the tubers prevents adequate circulation of vapour with consequent loss of treatment efficacy.

When applied immediately after harvest, sprout inhibitors based on chlorpropham may cause skin damage to potatoes which are sensitive and/or insufficiently cured. In addition, slower wound healing will increase the risk of infection with storage diseases. Under climatic conditions favourable to these diseases, this can result in an increase in damage during storage and loss of quality. Do not treat potatoes sensitive to skin damage (e.g. 'thin-skinned varieties') and/or storage diseases until after the curing period.

WARNING:

If applied immediately after harvesting, sprout inhibitors based on chlorpropham may cause skin effects on varieties that are susceptible to this (e.g. thin-peel varieties) and potatoes that have not yet been cured. Furthermore, due to the delay in wound healing, there is an increased risk of storage diseases (e.g. powdery scab, skin spot). The results of using chlorpropham sprout inhibitors therefore depend on the variety, harvest quality, storage area, storage temperature, any field-generated pathogens on tubers and other factors.

In order to reduce skin defects and the risk of storage diseases and other harmful side-effects, the following must be taken into account:

- the potatoes to be treated must be dry and free of dirt;
- the skin must have been cured sufficiently;
- blighted and damaged tubers must be removed in advance;
- during fogging, drop formation on the potatoes must be avoided.

Refer to the Other Specific Restrictions in the Important Information

Following crops

IMPORTANT - Seed crops of any type *must not be stored* in buildings or boxes previously treated with chlorpropham. This applies to seed potatoes, malting barley, seed grains, grass seed, ALL other seed crops and plant material for propagation such as raspberry canes. Any commodity handled or stored in boxes or stores previously treated with chlorpropham may also become contaminated leading to an exceedance of the maximum residue level (MRL). For further information, please contact Certis.

CROPS

For use on potatoes for consumption. DO NOT use on seed potatoes.

Consult processors before using Gro-Stop 100 in multiple dose programmes on potatoes for processing.

RATES AND TIMING

Individual application rates of between 12.5 ml (3.75g chlorpropham)/tonne and 40 ml (12g chlorpropham)/tonne can be applied. A maximum total dose of 120 ml (36 g chlorpropham)/tonne must not be exceeded for potatoes for processing. Potatoes for the fresh market must not exceed a total dose of 80 ml (24 g chlorpropham/tonne)

Flexible Programme – Low Dose Treatment

The first treatment should be applied once curing is complete (10-14 days after loading). As long as the maximum total dose of 120 ml (36 g chlorpropham)/tonne is not exceeded, further applications of between 12.5 and 40 ml (3.75-12 g chlorpropham)/tonne may be applied. Each application may prevent sprouting for up to 2 months depending on dose used, variety, temperature, humidity and general condition of potatoes. The higher dose may be necessary if the potatoes are having low dormancy levels, are in poor condition, dirty, have evidence of sprouting or if the filling of the store has been delayed. A 28 day minimum interval must be observed between applications.

There must be a minimum interval of 14 days between treatment and the marketing or processing of potatoes. Refer to the Other Specific Restrictions in the Important Information.

APPLICATION

Before Fogging

Ensure potatoes are dormant and thoroughly dried. Allow the potatoes to cure in store for at least 10 - 14 days before commencing treatment. The curing period will vary depending on the maturity of the crop and conditions at harvest. The surface of damaged potatoes should be well healed.

Under no circumstances should store conditions (temperature/humidity) be changed specifically for the fogging application.

Test the air circulation after closing all doors and apertures and turning on the fans which circulate within the store without drawing in outside air. It is VERY IMPORTANT to ensure that the air circulates gently (no more than a flickering match above the uppermost layers), freely (no clods or debris amongst the potatoes) and uniformly through the stacks or boxes.

During Fogging

Ensure the building is airtight with all external vents closed during treatment. Close the doors and start the fogging generator* outside the store.

Atomise the required quantity of 'Gro-Stop 100' into the store or ventilation ducts. To help provide a uniform distribution it may be found advantageous to reverse the air flow when about the last 10% of 'Gro-Stop 100' is being introduced. Leave the fans running until the fog has completely disappeared. DO NOT enter the store during application.

*SAM Unifog, Swingfog, Superfog, CropFog or similar fog generator fitted with fine to medium nozzle/aperture.

Include on 25 litre container only;

{The 25 litre containers are for handling with assistance of mechanical means only}

After Fogging

Flush with fresh air and resume normal store climate control 6 hours after the fog has cleared (preferably within 6 hours after completion of the fogging operation but latest after 24 hours). Recirculate store air for at least 6 hours without cooling prior to application. Note that sprouting may occur if optimum storage conditions are not in place or maintained.

DO NOT ENTER treated areas for at least 24 hours after treatment. VENTILATE TREATED AREAS thoroughly when fog has cleared (usually 6-8 hours after application, but after 24 hours at the latest). Prompt ventilation will help maintain fry quality in potatoes for processing (see 'Potatoes for processing' below).

Inspect the stored crop at regular intervals to assess the need in the case of multiple dosing for re-treatment or the need to remove the potatoes from the store. These inspections are particularly necessary when the potatoes are stored in wooden boxes where persistence may be reduced due to absorption of the hot fog by the wood.

Potatoes for processing

Darker fry colour has been linked to increased frequency of 'hot fog' application. Stored crops destined for crisp or chip production should be treated with the minimum number of applications, where a light fry colour is required.

Further advice is available in AHDB Potatoes latest Growers Advice Sheet for the use of chlorpropham

Company Advisory Information 2017 Storage Season

This section is not part of the statutory recommendations under the Plant Protection Products Regulations 2005 (amended) however it contains advice that is strongly recommended to be CIPC compliant. Visit www.cipccompliant.co.uk

Ventilation Management	Please refer to the AHDB Potatoes ventilation best practice guidance "Be CIPC Compliant", www.cipccompliant.co.uk/2017
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STORE DESIGN

Be CIPC Compliant - Observe the AHDB Potatoes Store Checklist to ensure that all storage conditions are met prior to chlorpropham application. www.cipccompliant.co.uk. Seek professional advice on store design before using for potato storage.

TIMING OF FIRST APPLICATION

Note that sprouting may occur if optimum storage conditions are not in place or maintained.

First treatment recommended within 3 weeks after harvest (or at the earliest occasion thereafter) even in the absence of signs of breaking dormancy.

Recirculate store air for at least 6 hours without cooling prior to application.

Bulk stores

Potatoes can only be treated successfully in stores with proper under-floor or ducted forced air circulation. The air circulation must run continuously during and after the fogging treatment until the fog has cleared (generally 20 – 30 minutes) in order to get sufficient distribution of the chlorpropham product. If necessary, employ frequency drives to reduce fan speed in order to reduce build up of crystals on fans and fan grids.

Box stores

Run fans during and after the fogging treatment until the fog has cleared (generally 20 – 30 minutes) in order to get sufficient distribution of the chlorpropham product.

It is strongly recommended to make store adaptations such that applications can be made while employing appropriate ventilation.

Flush with fresh air and resume normal store climate control 6 hours after the fog has cleared (preferably within 6 hours after completion of the fogging operation but latest after 24 hours).

Note that sprouting may occur if optimum storage conditions are not in place or maintained

Follow the latest AHDB Potatoes advice on circulation during and post fogging.

Please refer to the 'Be CIPC compliant' website, www.cipccompliant.co.uk for details of these systems, refer to AHDB Potatoes publications for current best practices (www.potato.org.uk; www.cipccompliant.co.uk).

Fogging contractors:

- Only apply chlorpropham if NPTC PA1 and PA9 qualifications are held and you are audited by the NAAC.
- Ensure all applications have been recommended by a BASIS qualified advisor.
- Ensure all equipment has been NSTS tested and is in date.
- Always follow the chlorpropham Code of Best Practice.
- Only apply chlorpropham if a store passes the chlorpropham store checklist and complies with the Code of Best Practice

Refer to AHDB Potatoes publications for current best practices (www.potatoes.ahdborg.uk; www.cipccompliant.co.uk)

END OF LABEL TEXT

This Safety Data Sheet does not form part of the label authorised under Regulation 1107/2009.

Safety Data Sheet

To access the Safety Data Sheet for this product, scan the QR code or use the web-link below:

[http://www.certiseurope.co.uk/fileadmin/downloads_uk/products/growth_regulants/
Gro- Stop_100_SDS.pdf](http://www.certiseurope.co.uk/fileadmin/downloads_uk/products/growth_regulants/Gro-Stop_100_SDS.pdf)